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March 15, 2004

CERTIFICATE OF MAILING  
37 C.F.R 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: MS DD, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date below:

March 15, 2004

Date

Steven L. Highlander

MS DD  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Re: *U. S. Patent Application No: 10/748,720 entitled "PROTEIN/SOLUBILITY FOLDING ASSESSED BY STRUCTURAL COMPLEMENTATION" by Philip Jordan Thomas, et al.*  
*Our Ref. UTSD:703USD1*

Sir :

Enclosed for filing in the above-referenced patent application is an Information Disclosure Statement and Form PTO-1449.

No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to the enclosed materials, the Assistant Commissioner is hereby authorized to deduct said fees from Fulbright & Jaworski Deposit Account No. 01-2508/UTSD:703USD1.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,

Steven L. Highlander  
Reg. No. 37,642

SLH/cas  
Encl.: As noted

25381883.1



**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Philip Jordan Thomas et al.

Serial No.: 10/748,720

Filed: December 30, 2003

For: PROTEIN/SOLUBILITY FOLDING  
ASSESSED BY STRUCTURAL  
COMPLEMENTATION

### Group Art Unit: Unknown

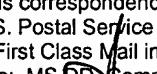
Examiner: Unknown

Atty. Dkt. No.: UTSD:703USD1

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March 15, 2004

  
Steven L. Highlander

# **INFORMATION DISCLOSURE STATEMENT**

**MS DD**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record.

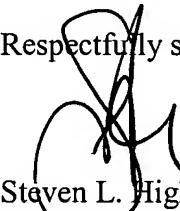
In accordance with 37 C.F.R §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSD:703USD1.

This application is a divisional application of Serial No. 09/775,051, filed January 31, 2001 and is relied upon for an earlier filing date under 35 U.S.C. § 120. In accordance with Rule 37 C.F.R. § 1.98(d) copies of the listed documents are not enclosed as they have been previously cited by or submitted to the Patent and Trademark Office in prior application Serial No. 09/775,051.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

  
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Reg. No. 37,642  
Attorney for Applicants

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Date: March 15, 2004



Form PTO-1449 (modified)

## List of Patents and Publications for Applicant's

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.

UTSD:703USD1

Serial No.

10/748,720

## Applicant

Philip Jordan Thomas, John F. Hunt, William Christian Wigley and Rhesa D. Stidham

Filing Date:

December 30, 2003

Group:

Unknown

## U.S. Patent Documents

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## Foreign Patent Documents

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## Other Art

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**U.S. Patent Documents**

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	5,120,653	6-9-92	Henderson	435	252.33	10-22-85
	A2	6,294,330	9-25-01	Michnick et al.	435	252.3	7-30-98

**Foreign Patent Documents**

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	WO 98/34120	8/6/98	PCT			
	B2	WO 98/44350	10/8/98	PCT			

**Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**

Exam. Init.	Ref. Des.	Citation
	C1	Abbas-Terki and Picard, "α-Complemented β-galactosidase. An in vivo model substrate for the molecular chaperone heat-shock protein 90 in yeast," <i>Eur. J. Biochem.</i> , 266:517-523, 1999.
	C2	Betton <i>et al.</i> , "Probing the structural role of an αβ loop of maltose-binding protein by mutagenesis: heat-shock induction by loop variants of the maltose-binding protein that form periplasmic inclusion bodies," <i>J. Mol. Biol.</i> , 262(2):140-150, 1996.
	C3	Blackwell and Horgan, "A novel strategy for production of a highly expressed recombinant protein in an active form," <i>FEBS Lett.</i> , 295:10-12, 1991.
	C4	Blakely <i>et al.</i> , "Epidermal growth factor receptor dimerization monitored in live cells," <i>Nature Biotech.</i> , 18:218-222, 2000.
	C5	Bourot <i>et al.</i> , "Glycine betaine-assisted protein folding in a <i>lysA</i> mutant of <i>Escherichia coli</i> ," <i>J. Biol. Chem.</i> , 275:1050-1056, 2000.
	C6	Brown <i>et al.</i> , "Correcting temperature-sensitive protein folding defects," <i>J. Clin. Invest.</i> , 99:1432-1444, 1997.
	C7	Bruijn <i>et al.</i> , "Aggregation and motor neuron toxicity of an ALS-linked SOD1 mutant independent from wild-type SOD1," <i>Science</i> , 281:1851-1853, 1998.

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Form PTO-1449 (modified)		Atty. Docket No. UTSD:703USD1	Serial No. 10/748,720
List of Patents and Publications for Applicant's  INFORMATION DISCLOSURE STATEMENT  (Use several sheets if necessary)		Applicant Philip Jordan Thomas, John F. Hunt, William Christian Wigley and Rhesa D. Stidham	
		Filing Date: December 30, 2003	Group: Unknown
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 1</i>	Other Art <i>See Page 1</i>	

### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C8	Culvenor <i>et al.</i> , "Subcellular localization of the Alzheimer's disease amyloid precursor protein and derived polypeptides expressed in a recombinant yeast system," <i>Amyloid: Int J Exp Clin Invest.</i> , 5(2):79-89, 1998.
	C9	Dobson, "Protein misfolding, evolution and disease," <i>TIBS</i> 24:329-332, 1999.
	C10	Johnson and Varshavsky, "Split ubiquitin as a sensor of protein interactions in vivo," <i>Proc Natl Acad Sci U S A.</i> , 91(22):10340-4, 1994.
	C11	Foster <i>et al.</i> , "Pharmacological rescue of mutant p53 conformation and function," <i>Science</i> , 286:2507-2510, 1999.
	C12	Harper and Lansbury Jr., "Models of amyloid seeding in Alzheimer's disease and scrapie: mechanistic truths and physiological consequences of the time-dependent solubility of amyloid proteins," <i>Annu. Rev. Biochem.</i> , 66:385-407, 1997.
	C13	Houry <i>et al.</i> , "Identification of <i>in vivo</i> substrates of the chaperonin GroEL," <i>Nature</i> , 402:147-154, 1999.
	C14	Huang <i>et al.</i> , "NMR structure and mutagenesis of the Fas (APO-1/CD95) death domain," <i>Nature</i> , 384:638-641, 1996.
	C15	Hung <i>et al.</i> , "Crystal structure of the ATP-binding subunit of an ABC transporter," <i>Nature</i> , 396:703-707, 1998.
	C16	Huth <i>et al.</i> , "Design of an expression system for detecting folded protein domains and mapping macromolecular interactions by NMR," <i>Protein Sci.</i> , 6:2359-2364, 1997.
	C17	Johnsson and Varshavsky, "Split ubiquitin as a sensor of protein interactions in vivo," <i>Proc. Natl. Acad. Sci. USA</i> , 91:10340-10344, 1994.
	C18	Kapust and Waugh, " <i>Escherichia coli</i> maltose-binding protein is uncommonly effective at promoting the solubility of polypeptides to which it is fused," <i>Protein Science</i> , 8:1668-1674, 1999.
	C19	King and Sorscher, "Recombinant synthesis of cystic fibrosis transmembrane conductance regulator and functional nucleotide-binding domains," <i>Methods Enzymol.</i> , 292:686-697, 1998.
	C20	Ko <i>et al.</i> , "The cystic fibrosis transmembrane conductance regulator," <i>J. Biol. Chem.</i> , 268:24330-24338, 1993.

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Exam. Init.	Ref. Des.	Citation
	C21	Lee <i>et al.</i> , "Effect of the N-terminal hydrophobic sequence of hepatitis B virus surface antigen on the folding and assembly of hybrid $\beta$ -galactosidase in <i>Escherichia coli</i> ," <i>Eur. J. Biochem.</i> , 187:417-424, 1990.
	C22	Luzzago and Cesareni, "Isolation of point mutations that affect the folding of the H chain of human ferritin in <i>E. coli</i> ," <i>EMBO J.</i> , 8:569-576, 1989.
	C23	Maxwell <i>et al.</i> , "A simple <i>in vivo</i> assay for increased protein solubility," <i>Protein Science</i> , 8:1908-1911, 1999.
	C24	Nixon and Benkovic, "Improvement in the efficiency of formyl transfer of a GAR transformylase hybrid enzyme," <i>Protein Engineering</i> , 13(5):323-327, 2000.
	C25	Opal and Paulson, "Genetic instabilities and hereditary neurological diseases," <i>Am J. Hum. Genet.</i> , 63(6):1921, 1998.
	C26	Papouchado <i>et al.</i> , "Expression of properly folded human glutamate decarboxylase 65 as a fusion protein in <i>Escherichia coli</i> ," <i>Eur. J. Biochem.</i> , 246:350-359, 1997.
	C27	Pelletier <i>et al.</i> , "An <i>invivo</i> library-versus-library selection of optimized protein-protein interactions," <i>Nature Biotech.</i> , 17:683-690, 1999.
	C28	Qu and Thomas, "Alteration of the cystic fibrosis transmembrane conductance regulator folding pathway," <i>J. Biol. Chem.</i> , 271(13):7261-7264, 1996.
	C29	Rao <i>et al.</i> , "Rhodopsin mutation G90D and a molecular mechanism for congenital night blindness," <i>Nature</i> , 367:639-642, 1994.
	C30	Sugihara and Baldwin, "Effects of 3' end deletions from <i>Vibrio hrveyi luxB</i> gene on luciferase subunit folding and enzyme assembly: generation of temperature-sensitive polypeptide folding mutants," <i>Biochemistry</i> , 27:2872-2880, 1988.
	C31	Tan and Pepys, "Amyloidosis," <i>Histopathology</i> , 25:403-414, 1994.
	C32	Thomas <i>et al.</i> , "Altered protein folding may be the molecular basis of most cases of cystic fibrosis," <i>FEBS Lett.</i> , 312:7-9, 1992.
	C33	Thomas <i>et al.</i> , "Defective protein folding as a basis of human disease," <i>TIBS</i> , 20:456-459, 1995.
	C34	Valois <i>et al.</i> , "Utilisation of the PCA strategy to study the folding of the RBD of raf," <i>FASEB Journal</i> , 13:A1387, 330, 1999.

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Exam. Init.	Ref. Des.	Citation
	C35	Waldo <i>et al.</i> , "Rapid protein-folding assay using green fluorescent protein," <i>Nature Biotechnology</i> , 17:691-695, 1999.
	C36	Wang <i>et al.</i> , "Expression and purification of the first nucleotide-binding domain an dlinker region of human multidrug resistance gene product: comparison of fusions to glutathione S-transferase, thioredoxin and maltose-binding protein," <i>Biochem J.</i> , 338:77-81, 1999.
	C37	Wood <i>et al.</i> , "Prolines and amyloidogenicity in fragments of the Alzheimer's peptide $\beta$ /A4," <i>Biochemistry</i> , 34(3):724-730, 1995.

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